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THE EARTH...ITS RESOURCES...ITS PEOPLE

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The earth and its resources
belong of right to its people.
... Conservation proclaims the
right and duty of the people to
act for the benefit of the people.
Gifford Pinchot

Northeastern Area, State and Private Forestry
Forest Service, U.S. Department of Agriculture
and Cooperating State Agencies

NATIONAL

A



State & Private Forestry



People.

The social well-being of people.

Environmental enhancement by people, for people.

The material and economic needs of people.

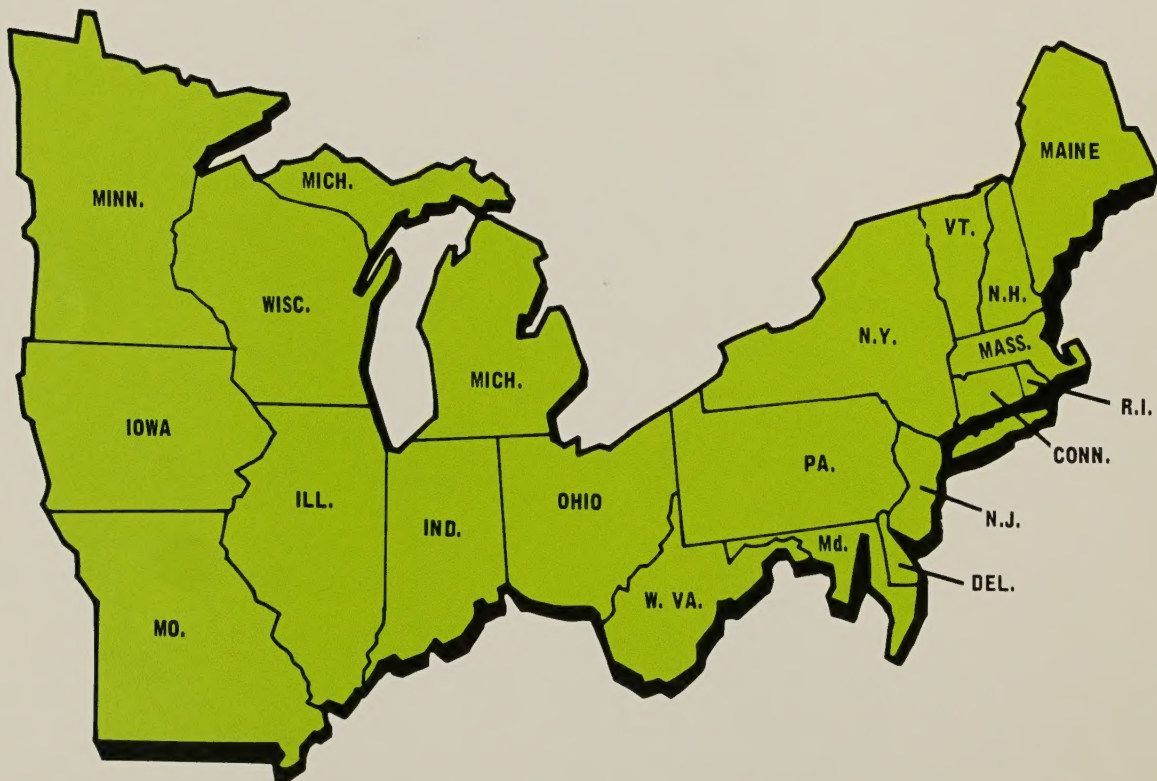
People and forestry—in their broadest context—are the concerns of the Forest Service, U.S. Department of Agriculture and its many cooperators in the Northeast, including state and federal natural resource agencies, forest industries, universities and others.

These partners see the close interrelationship between all forest ownerships—federal, state, county,

municipal, and private. There is really only one forest resource which happens to be distributed among various ownerships and jurisdictions.

Working together, forestry cooperators are protecting, managing and utilizing forest environments of the Northeast for the continuing benefit of people.

This report highlights some recent accomplishments by state natural resource agencies and the Northeastern Area, State and Private Forestry that benefit the earth . . . its resources . . . its people.



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Cooperating State Agencies (inside back cover)

CONNECTICUT

ENVIRONMENTAL PROGRAMS UNITED UNDER ONE DEPARTMENT

Connecticut's Forestry Unit has completed its first full year as part of the new Department of Environmental Protection. The reorganization of formerly independent natural resource agencies under one department is a major advance for resource management in Connecticut. As a result, forestry personnel have been relieved of many maintenance and business management functions, leaving more time for intensive forestry practices on state and private forest lands. Interdisciplinary review of land management decisions is assured by a regional field organization. The State Forester as a staff officer determines policy, sets objectives and reviews progress.

"BUFFER BUNCHES" PROVE POPULAR

"Wildlife Buffer Bunch" may just sound like another catchy phrase, but in Connecticut it is an enterprise that has proven to be both economically and environmentally beneficial.

A Wildlife Buffer Bunch is a packet of 30 shrub seedlings (10 autumn olive, 10 dogwood and 10 honeysuckle) and 20 tree seedlings (10 white pine and 10 spruce). In 1973, for the first time, the state forest nursery offered the packets at \$6.00 each to landowners. Over 2,000 bunches were sold, and 1,500 orders have already been placed for next spring's planned shipment of 4,000 bunches.

The planted trees and shrubs will provide food and cover for birds and small animals that might otherwise be squeezed out by residential development. The plantings will also provide noise abatement, erosion control and aesthetic improvements for the urban environments of Connecticut.

Economically, revenue from the sale of the bunches has strengthened the forest nursery program and should make it possible to avoid increasing the price of nursery planting stock for reforestation purposes.

Connecticut truly is an urban forestry state: it ranks fourth among the states in population density, and two-thirds of its 3 million acres are forested. Ninety percent of the forest land is privately owned, and many urban dwellers with small residential lots have a sincere interest in the ecology movement as it relates to forestry.

The Wildlife Buffer Bunch program has shown that people are very interested in trees and shrubs for wildlife, and they are eager to find ways to demonstrate their concern for other creatures of the environment.

"BIRDSCAPING YOUR YARD" OFFERED TO HOMEOWNERS

"Birdscaping Your Yard," a free booklet closely related to the Wildlife Buffer Bunch program, outlines practical and simple ways to make home yards an attractive habitat for birds. It offers suggestions on shelter, food, water and other essentials for attracting and sustaining various kinds of birds. The booklet was produced in March 1973 by the Connecticut Department of Environmental Protection.



More than 2,000 Wildlife Buffer Bunches were planted in 1973.

DELAWARE

STATE FORESTS HAVE ECOLOGICAL REJUVENATION PLAN

The management of Delaware's state forests has been reviewed and revised to minimize environmental effects. To reinforce multiple use management and to promote the image of forestry in Delaware, an "ecological rejuvenation plan" for state forests was put into effect with the signing of the first formal timber sale contracts in February 1973.

The 1973 rejuvenation cut involves 100 acres of pine and mixed hardwood forest and has a total volume of 723,064 board feet and 483 cords. The timber was marked for even-aged management. The acreage is contained in two blocks: 25 acres on the Blackbird State Forest in New Castle County and 75 acres on the Ellendale State Forest in Sussex County.

Under the plan, an additional 100 acres within the state forests will be rejuvenated each year. At the end of 1977, the plan will be reviewed for its effectiveness and adapted to meet the management programs of state fish and wildlife areas and state parks.

In conjunction with the commercial harvest of mature timber, contract proposals have been prepared to sell pulpwood harvested by state personnel from intermediate size stands.

A full-time pulpwood crew of four men equipped with a four-wheel drive pulpwood loader will intensify the management program on the 6,300 acres of Delaware's state forests.

TREE NURSERY WINS AWARD

The state tree nursery continues to supply sufficient quantities of loblolly pine seedlings to replant cutover woodlands and to establish pine plantations on open ground. The nursery was cited in 1972 by the American Forestry Association for exhibiting the best white pine and Norway spruce seedlings in its National Tree Seedling Show.

The Forestry Section of the Delaware Department of Agriculture has made significant progress advising the public about proper forest management. The addition of two Cooperative Forest Management (CFM) field foresters to the staff has increased the number of requests for woodland management service and the number of acres reforested.

ILLINOIS

HELICOPTER USED TO POLLINATE PINES

Tree seed is becoming an increasingly high-priced and scarce item. Sometimes, certain kinds are completely unavailable, at any price. The Illinois Division of Forestry has established seed orchards to produce a continuous supply of easily accessible, genetically improved seed. This will enable the Division to grow superior tree seedlings to benefit the people of Illinois. A helicopter recently was used to stimulate pollination in the Scotch pine seed orchard on the Hidden Springs State Forest. The idea of the 'copter hovering over the plantation—rotor blades at full pitch—was to cause wind currents, thus increase pollination and seed production. Just how much the sexual activities of the Scotch pine were stimulated by the helicopter remains to be seen.

TREE INVENTORY BY TELEPHONE

DIAL-AN-INVENTORY has been added to dial-the-weather, dial-the-time, and dial-a-prayer in Illinois. DIAL-AN-INVENTORY brings up-to-the-minute information on the availability of tree seedlings from the Mason and Union State Nurseries. Once a day, the latest stock-on-hand figures are taped into a "black box" connected to the nursery telephones. Anyone wishing to know if

"x" number of so-and-so stock is available need merely call a special number at each nursery. Knowing the availability, one then places his order. Fingertip availability of stock is intended to improve the distribution of tree seedlings to individuals, groups, and other governmental agencies.

ILLINOIS ALSO WINS TREE NURSERY AWARD

Illinois also received some top honors at the 1972 National Tree Seedling Show sponsored by the American Forestry Association. The state's Scotch pine, white pine and red oak seedlings won first place awards. A second place award was taken by the tulip poplar seedlings, and third place ribbons went to the baldcypress and black cherry entries.

PLANNING GUIDE DEVELOPED FOR ENVIRONMENTAL EDUCATION

Outdoor education classrooms near schools can be very valuable, effective and enjoyable teaching tools. To help meet the conservation education needs for Illinois schools, the Department of Conservation has developed a planning guide for the establishment of multiple use environmental classrooms. The guide's major features are (1) desirable physical characteristics of such areas, (2) recommended trees and shrubs and their placement, (3) natural resource agencies available for assistance, (4) commercial nurseries selling tree seedlings, and (5) bibliography.

INDIANA

WOODLAND MANAGEMENT PROFITABLE FOR INDIANA WOMAN

Better woodland management—that's what Mrs. Alberta Overall was interested in when she contacted an Indiana service forester in January 1965. Mrs. Overall, a black landowner in Harrison County, Indiana, has 20 acres in the Indiana Classified Forest, a program which gives a favorable tax assessment to landowners who agree to certain woodland management standards.

The service forester wrote a woodland management plan including practices that would lead to increased tree growth, quality and yield. Priority items in the management plan were 6 acres of tree planting for erosion control and timber marking for a harvest cut.

The tree planting for erosion control was completed in 1966 when 4,000 Virginia pines were planted on the eroded area. This area is now completely covered with vegetation which has stopped the erosion and sedimentation of lakes and streams. The service forester also marked 9,250 board feet of timber for harvest in 1966. This timber was harvested and resulted in additional income from the farm.

Mrs. Overall continued to protect and care for her woods and again harvested timber in 1971. This harvest yielded 11,000 board feet of timber and \$500 additional income.

Mrs. Overall has seen the value of good forest man-

agement, and she continues to practice it today with the assistance of her District Service Forester.

INDIANA CRACKS DOWN ON FRAUDULENT TIMBER BUYERS

The Indiana Timber Buyers Licensing Law was enacted in 1973. This industry-sponsored law requires the licensing and bonding of everyone buying trees or logs which can be used for lumber, manufacturing or processing purposes from a timber grower. The law protects landowners by prohibiting the unauthorized cutting of trees or taking of logs; the failure to pay, as agreed, for timber purchased; or any fraudulent act in connection with the purchase of timber.

CONSULTANT AND SERVICE FORESTERS COOPERATE

Forest environments and landowners in Indiana benefit from the cooperative relationship between consultant foresters and state service foresters. The Indiana Division of Forestry has and continues to encourage and aid consultants within the state. The acreage of Indiana timberland treated under the Rural Environmental Assistance Program (REAP) increased from 1,800 in 1970 to 6,000 in 1973. This increase, in large part, was made possible by consultant foresters.

IOWA

FORESTERS HELP WITH ENVIRONMENTAL PROJECTS

Iowans are not only concerned about their environment, but they are also doing something about it. Here's some of the evidence. In 1972, Cooperative Forest Management (CFM) foresters helped with 64 beautification projects, planting 950 acres of trees and placement of 7,000 acres of timberland under management. One-half of the land management assistance cases on non-industrial private land involved landowners other than farmers.

RATHBUN RESERVOIR AREAS REVEGETATED

Three years ago, most of the land included in public use areas around Rathbun Reservoir was eroded, abandoned cropland. Today, as a result of leadership from the Forestry Section of the Iowa State Conservation Commission, the task of conversion to grass and trees is almost completed. Prairie grasses, once native to the area, replace weeds on 340 acres. About 1,000 acres



Transplanted large trees now enhance the environment of Rathbun Reservoir.

have been reseeded to grass-legume mixes. Almost 200 acres of pine and hardwood plantations have been established, and over 1,000 large trees have been transplanted to provide shade for campers. Most of the work was contracted to local farmers and laborers, and over 50 local people have worked on the project at one time or another.

BEDFORD RC&D PROJECT COMPLETED

The first project measure completed in the Southern Iowa Resource Conservation and Development (RC&D)

Project area was the forestry and wildlife planting in Bedford Park, Taylor County. A 120-acre tract was purchased by the Town of Bedford as the site for a 30-acre water supply reservoir. The dam was completed in the spring of 1970, and the area is now protected from grazing and fire. Under project measure number 127, sponsored by the Town of Bedford, trees and shrubs were planted around the lake to stop erosion and improve wildlife habitat. The project also calls for a future park. In the spring of 1972, the RC&D Forester recommended planting 10,000 pine seedlings, 750 hardwood seedlings and 250 shrubs. The seedlings were ordered from the state nursery, and they were planted in May. The planting job was done by local farmers under a contract arrangement.

MAINE

FOREST MANAGEMENT AT PINELAND HELPS CHILDREN AND IMPROVES ENVIRONMENT

Environmental enhancement, production of forest products, management of wildlife habitat and management of watershed areas are major parts of the Cooperative Forest Management Program in Maine. Management of state-owned forest land has intensified in recent years as interest in forest land management increases state-

wide. The program on the Pineland Hospital and Training Center woodlands in the Town of Pownal, Cumberland County, is an excellent example of CFM cooperation with other state agencies.

The Pineland Hospital and Training Center administers a program for mentally retarded and emotionally disturbed youngsters. The Center owns 1,300 acres of forest and field land. In 1966, Clifton Foster, then the Maine Forestry Department Service Forester for Cumberland County, began working with Dr. Peter Bowman,



Once stagnated pine forests are now, under management, providing a variety of economic and social services for the children of Pineland Hospital and the people of Maine.

Center Director, and in 1968 a forest management program was started. Since then, projects in woodland harvest cutting, timber stand improvement, tree planting and Christmas wreath making for students have been accomplished.

Pineland's forests are largely of eastern white pine and associated transition zone species, and many of them are overstocked. Harvest cutting has been done on a bid-stumpage contract basis. The overall program is presently supervised by Service Forester George Ruopp. About 219,000 board feet of sawlogs and 320 cords of boltwood and pulpwood have been selectively harvested from 79 acres. These areas will be ready for another harvest in 15 to 20 years.

About 10,000 board feet of sawlogs are custom-

sawed during each logging operation for Pineland; half is used for student woodworking projects and half for general carpentry and maintenance.

Immature stands are also being improved. During 1973, 30 acres were aerially sprayed by helicopter to release softwood species from competing hardwoods. Pruning white pine to improve the quality of timber produced has been done and will continue.

About 20,000 red and white pine and 12,000 balsam fir have been planted on the Center's field land over a five-year period. The balsam fir will be managed for Christmas trees and wreaths. The wreath-making project which began in 1969 has four Hillman wreath-making machines. In 1972, 17 students produced 400 wreaths which were sold in the local area.

MARYLAND

WATER STORAGE HELPS REDUCE WOOD WASTE

Southern pine beetles infested about 5,000 acres of state and private forest land on the eastern shore of Delaware, Maryland and Virginia (Delmarva) late in 1970. Prolonged drought and mild winter conditions allowed

the beetles to reach epidemic proportions in the spring of 1971. Maryland Governor Mandel, on April 15, 1971, declared part of that state an "Emergency Area."

The number of pine trees (primarily loblolly pine) that were quickly killed far exceeded the harvesting capacity of the forest industries of Delmarva. A massive insect infestation had suddenly created large supplies



A water-spray storage system for tree-length logs is being tested on the Pocomoke State Forest, Maryland.

of timber for a limited market. The stumpage values of timber decreased. Both large and small landowners lost tremendous potential revenues and current forest inventory, as the dead trees began to decay.

If the trees could be salvaged and stored, millions of board feet of wood might be saved and marketed years after the infestation at prices comparable to those which existed prior to the epidemic. With this thought in mind, U. S. Forest Service specialists and state forestry personnel visited log storage yards in Mississippi and Louisiana to learn yard costs, layout, design, installation and operating techniques for use in Maryland. The Maryland Forest Service (Department of Natural Resources) provided leadership in saving the forest resources of Delmarva by establishing a log storage yard on the Pocomoke State Forest to demonstrate

methods of storing tree-length logs.

The Pocomoke project demonstrates the effectiveness of water-spray storage in controlling stain and decay to preserve wood fiber for later use as piling, sawlogs or pulpwood. It is the first use of water-spray storage on Delmarva. The process has, however, been extensively used in the South with very good results.

The Maryland Forest Service, the U. S. Forest Service, Koppers Company of Salisbury, Maryland and the Paul M. Jones Lumber Company of Snow Hill, Maryland are cooperating in a research study to evaluate the effectiveness of the water-spray storage.

Environmentally, water-spray storage makes possible better clean-up of insect-killed forests and reduces the need to harvest trees during wet periods when the soil is easily damaged.

MASSACHUSETTS

HYDROSEEDING USED TO REVEGETATE GRAVEL PIT

Gravel is a mineral resource needed by society. The mining of gravel, however, leaves a scar on the countryside. Revegetation of gravel pits is ecologically and aesthetically desirable. Natural seeding—letting “nature take its course”—is uncertain and may be ineffective. Planting seedlings by hand or by machine is slow, tedious and expensive.

In an effort to find an easy, fast, inexpensive and effective means of revegetating gravel pits, a group of Massachusetts cooperators conducted a pilot test of the hydroseeding method in November 1971. A hydroseeder is a machine that applies a water solution containing seed, fertilizer, and mulch in one operation. Hydroseeders have been used in the past to apply grass seed, but the Massachusetts test used the machine to apply tree and shrub seeds.

About 2 acres were seeded. One acre was seeded

to white pine and gray birch in various combinations of 50- by 50-foot plots. The other acre was seeded to a variety of species including white pine, gray birch, Japanese black pine, Scotch pine, Norway spruce, Russian olive, crown vetch, white spruce, and ponderosa pine.

Germination during the summer of 1972 was slow; however, by fall, there were many young seedlings growing in the test plots. Results of the project following the first growing season are inconclusive. There are problems, but the possibilities for hydroseeding trees and shrubs are great.

Cooperating in the project, which was funded by the University of Massachusetts through the County Extension Service, were the Massachusetts Department of Natural Resources, Springer's Forestry Service, and the Acushnet Sawmill Company, owners of the land. Service foresters of the Massachusetts Division of Forest and Parks helped carry out the seeding and are periodically checking its progress.

MICHIGAN

DEPARTMENT OF NATURAL RESOURCES GETS ADDED RESPONSIBILITIES

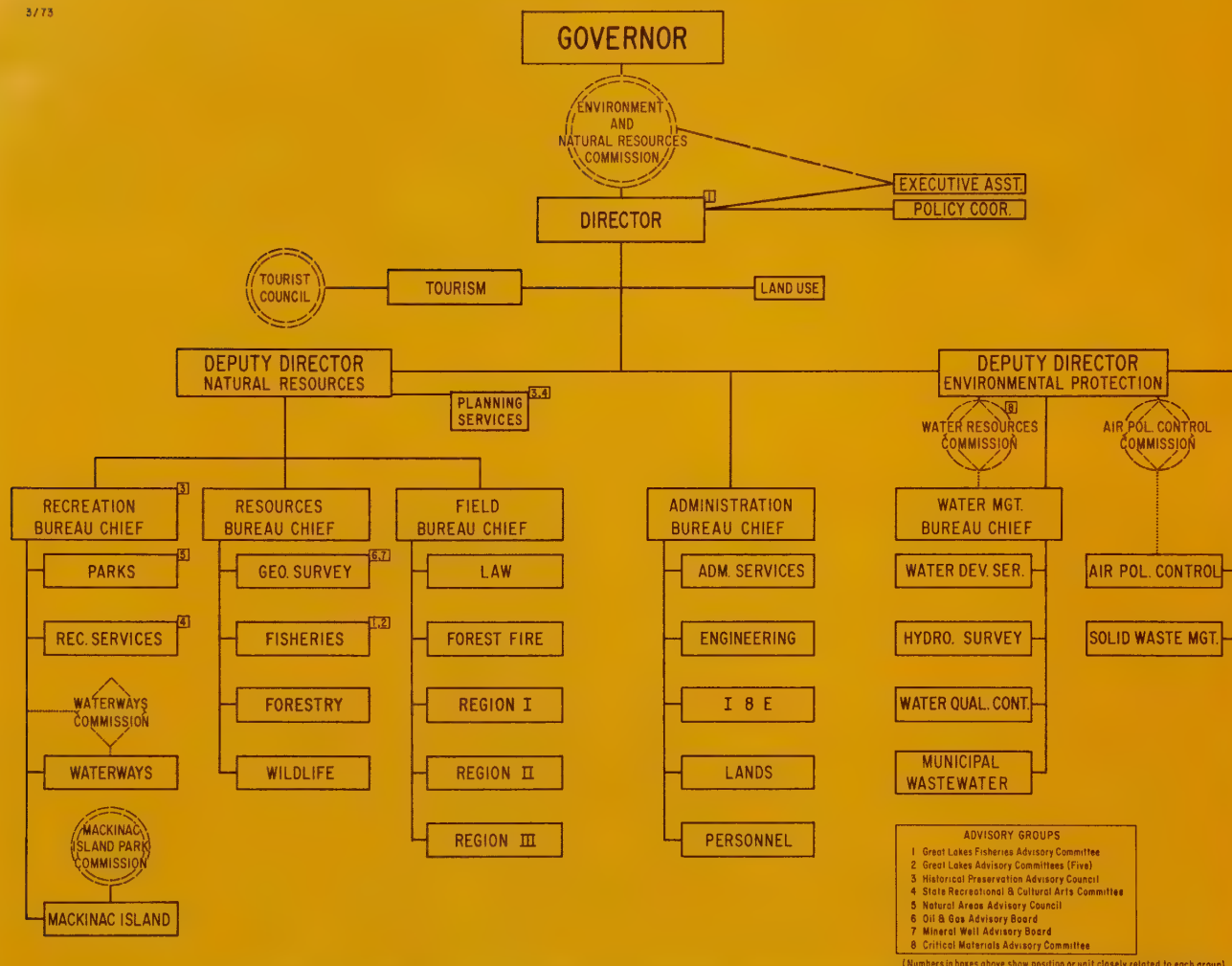
Michigan's Department of Natural Resources has been given added environmental responsibilities as a result of Governor Milliken's order on April 1, 1973. Both former DNR Director Ralph A. MacMullan, and present Director A. Gene Gazlay have strongly advocated consolidating all environmental programs under DNR with land use

being given top priority.

Added to the Department's many responsibilities in the fields of natural resources and the environment were: The Office of Land Use, previously a section of Governor's staff; Air Pollution Control, Solid Waste Management, and Municipal Wastewater, all from the Department of Public Health; and Watershed Planning from the Department of Agriculture.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

3/73



ENVIRONMENTAL GUIDELINES PREPARED FOR UTILITY TRANSMISSION LINES

The rapid increase in oil and gas discoveries and the resulting need for a variety of utility transmission lines have become major concerns for the Forestry Division of the Michigan Department of Natural Resources. The Division administers 3.75 million acres of state forests and is frequently asked by utility companies for rights-of-way across state land.

Electric powerlines, telephone lines, gas and oil pipelines—and similar structures which so mechanically interrupt the natural landscape—have been under

study by the Forestry Division for over a year. As a result, detailed guidelines for the location, construction, and maintenance of such facilities on Michigan state lands have been prepared and furnished to all companies and land managers. The guidelines seek to insure an important balance: the protection of environmental quality while responding to public needs for utility services.

These guidelines are believed to be a pioneering “first” in the country, and Michigan is proud of them. They have been well received during the several months they have been applied. Land managers and utility companies are asked to help improve the guidelines by sending suggestions to the Forestry Division.

STATE PROVIDES SNOWMOBILE FACILITIES

When the last of the Thanksgiving turkey has been eaten, Michigan begins to turn white. The average annual snowfall in many areas is over 100 inches, and snowmobiles have taken the gloom out of winter for many people. Michigan had nearly 370,000 registered snowmobiles in March 1973.

The state forests are northern winter playgrounds. Over 1,100 miles of snowmobile trails have been developed, and plans call for an expansion to 2,000 miles. Many of Michigan's state forests are within a one-day drive of one-fourth of the total U. S. population. As the need for recreation increases, these valuable areas of public land will become increasingly important.

The Forestry Division of the Michigan DNR has some definite objectives for its snowmobile program. First: provide safe recreation facilities. Second: provide enjoyable, healthful and meaningful experiences for snowmobilers. Third: minimize conflicts with other uses. Proper trail layout and maintenance are emphasized.

Michigan does not have the necessary public land to provide a snowmobiling facility in the populous southern part of the state. In an attempt to overcome this, several areas in southern Michigan were leased by the state for public snowmobiling during the winter of 1972-73. Each area contained at least 100 acres, and the areas totaled 18,000 acres. A parking lot and signs were provided at each area. The program, administered by service foresters, is planned to continue.

MICHIGAN PIONEERS IN TOTAL TREE CHIP PRODUCTION

Since the initial demonstrations in Michigan of the Michigan-made total-tree chipper (the Metro-Chiparvestor) to evaluate the concept of total-tree chip production and use, the system has been accepted by industry. At least three plants in Michigan accept total-tree hardwood chips, and two others are capable of using them. Michigan, however, is not the only state which has plants now using the total-tree chips.

Significant points regarding this technological breakthrough are:

1. Utilization of raw material is increased by using more of each tree, and by using trees and harvesting areas that would be considered nonmerchantable by conventional harvesting methods.
2. The clean appearance of the harvested site is aesthetically more acceptable than one with tree tops, broken and bruised trees.
3. The system is ideally suited to harvesting and propagating species that are best managed by a "total tree cut." The "clean cut" sites also are readily convertible to other species by planting.



Heavily used snowmobile trails become rough like a washboard. Trail groomers repair and smooth the snow surface.

In April 1973, a Michigan demonstration of the total-tree utilization system using the Metro-Chiparvestor was conducted in a pine plantation. It appears to be only a matter of time before total-tree use of *all* species will be a reality.



Metro-Chiparvestors make it possible to chip and utilize entire trees.

This area was clearcut under a total tree utilization system in February 1972. By August 1972, aspen reproduction was excellent.



MINNESOTA

ENVIRONMENT IMPROVED AND PEOPLE SERVED

Minnesota's School Forest Program has become increasingly popular as public interest and concern for the environment has grown. There are now 57 school forests, totaling 4,873 acres, which serve as outdoor laboratories for conservation education.

In 1971, the Minnesota State Legislature created the 2.9 million-acre Snake River State Forest in Kanabec County.

In the 1970-71 biennium, division foresters assisted 7,600 landowners on 191,000 acres of forest land, an increase of 32,000 acres over the previous biennium. The three state tree nurseries shipped over 30 million trees in response to nearly 8,000 orders.

Thirteen new campgrounds were constructed in 1970-71, including eight small units on canoe routes. Campground receipts more than doubled over the previous 2-year period. More than 800 miles of snowmobile trails, 100 miles of hiking trails and 100 miles of horse trails were constructed, bringing the total to over 1,100 miles.

The Minnesota Division of Lands and Forestry and the Division of Game and Fish cooperated in the treatment of 24,000 acres to improve wildlife habitat.

DEPARTMENT OF NATURAL RESOURCES REORGANIZED AND DECENTRALIZED

Minnesota is reorganizing and decentralizing its Department of Natural Resources to better meet the growing and conflicting demands placed on the state's resources. The plan recognizes that decisions intended to primarily benefit one resource inevitably affect other resources.

Formerly, DNR was organized so that the resources under its jurisdiction were divided into separate divisions for management. Each division had its own director and staff to carry out its duties. The new organization has six regional directors who report to the DNR Commissioner. Each is responsible for managing all resources within his assigned region toward specific management goals. The former division directors are a planning, project development and advisory staff for the Commissioner. The new arrangement is expected to greatly aid coordinated natural resources management in Minnesota.

MISSOURI

COMMUNITY FORESTRY PROGRAM STRESSES "PEOPLE FORESTRY"

"People forestry" has sometimes been used to describe Missouri's Urban and Community Forestry Program. People—3,500 of them—are personally served each year by urban foresters in St. Louis and Kansas City. Thousands more are reached through educational efforts. On Arbor Day, 81,000 4th graders in all of Missouri's major cities received a free tree, and their 2,370 teachers received a packet of forestry teaching aids. Inner city youngsters in the Follow Through Program were given a head start in forest appreciation when they planted their trees on their school grounds.

The environment of 175,000 other Missourians has been improved through the Community Forestry Program. Tree planting and maintenance plans have been prepared for "people property" such as parks, cemeteries, senior citizens housing projects, schools, institutional medical buildings, fairgrounds, and industrial parks—about everything but dog pounds and one of these will be along soon. Field foresters backed by a landscape architect develop these plans with local officials and concerned citizens who want to do something about their environment.





It is man that makes raw resources valuable. In converting the resource to useful commodities, he creates jobs and goods that consumers need. You might say this is the bread and butter of forest values. The state's programs of forest protection, reforestation, and forest management services to private landowners are essential in a forest area which is 90 percent privately owned. The state services to protect and manage this renewable resource also preserve the jobs of 22,000 people in the forest products industries. They insure,

too, the continuous flow of hundreds of forest products to all the people of Missouri and the Nation.

The evening newspaper may have started from a seedling tree grown in a state nursery. A fire fighter protected the tree that yielded the 2 x 4 in the walls of a home, and a farm forester marked the walnut that went into the family desk.

Wise use—that is what forestry is all about in Missouri. Pinchot called it conservation.

NEW HAMPSHIRE

CURRENT-USE TAX ASSESSMENT AVAILABLE FOR FOREST LAND

Soaring land prices reflect the current surge of megapolis into southern New Hampshire. Property taxes were following suit, and in some towns they rivaled the entire earning potential of timber income, before a current-use tax assessment law for farm and forest lands was passed. Thanks to leadership by foresters, landowners managing their forests can now request assessment on a current-use, rather than on an ad valorem basis. Combined with rising stumpage prices, the availability of current-use taxation has greatly stimulated interest in forest land management in New Hampshire.

TIMBER HARVEST PROCEDURES MODIFIED ALONG STREAMS AND ROADS

Displeasure with harvest cutting practices focused sharply behind a law which established 200-foot strips along floatable and navigable streams, public ponds and lakes, and public highways. Within these strips, only 50 percent of the merchantable volume can be cut at one time, and slash must be removed from the first 50 feet

and lopped or arranged to lie within 4 feet of the ground in the remainder of the strip. Aesthetic qualities have been enhanced, and the fire hazard has been reduced. The state forester published a booklet of laws that affect harvest cutting, and public meetings were held to inform the logging industry and others.

SEWAGE USED TO FERTILIZE FOREST

Lagooned sewage effluent is being sprayed during the summer on 6 acres of forest land in Sunapee State Park. The state park is primarily a winter sports area, and the effluent is stored for spraying the following summer. The spraying not only fertilizes the forest but also solves an important environmental problem. A lake downstream from the state park is of very high quality and state law prohibits the discharge of any sewage effluent upstream. Thus, the spraying promotes forest growth while protecting the environment.

Southern New Hampshire forest land is feeling the pressure of urban growth.



NEW JERSEY

FIRST SEEDLINGS PRODUCED FROM JAPANESE LARCH SEED ORCHARD

Imagine a 15-year-old tree 60 feet tall and 12 inches in diameter at the base! With the good soil, adequate rainfall and the long growing season of central and southern New Jersey, vigorous, straight-growing Japanese larch have produced 20-foot poles in 6 years. At 9 years, the first crop of seed was harvested. If a large percentage of these seedlings do as well as the trees in the seed orchard, they can be producing piling for New Jersey's coastal resorts by 1990. By 2000, they should be large enough for sawtimber.

The first seedlings produced from a 2-acre Japanese larch clonal seed orchard were lifted in the spring of 1973. This represents the culmination of cooperative efforts over 9 years between the Forest Service, USDA, and the New Jersey Bureau of Forestry. This orchard, one of the first three in the northeastern states, was established from 25 different clones of superior trees in

New Jersey, New York, Pennsylvania and Vermont. The trees, now averaging 12 feet in height, are expected to produce operational supplies of seed by 1978.

URBAN FORESTRY GUIDELINES DEVELOPED

Increased requests for technical forestry assistance generated by the Farmland Assessment Act and for guidance in the preparation of woodland conservation inventories by Municipal Conservation Commissions are establishing the trend toward the urban forestry programs of the future. The heavy demands for recreational and aesthetic use by urban populations will require a reorientation of traditional forest management techniques and objectives to accommodate the needs of an urban society. Guidelines for urban forestry activities on both state and private woodlands in New Jersey have been developed under a General Forestry Assistance project funded by the Forest Service, USDA.

This 9-year old Japanese larch seed orchard produced its first seed in 1972.



NEW YORK

SOUTH CENTRAL RC&D PROJECT INITIATES URBAN FORESTRY PLANNING

Trees in an urban community are not only aesthetically pleasing, but they are also very effective air conditioners, noise reducers, erosion controllers, screening devices, and windbreaks.

Throughout the South Central RC&D Project Area, the villages and cities were losing many of their shade and street trees every year. The most critical causes were "people pressure disease" (PPD), overmaturity, neglect, extension of concrete and asphalt surfaces, soil compaction, ice control measures, drainage changes, Dutch elm disease, and increased air pollution.

Communities became distressed and anxious about their shade tree problems. The resulting RC&D urban forestry program is helping to preserve the remaining healthy trees and to replace trees that have been or will be lost.

The RC&D forester works with groups of interested people to improve the urban forestry environment. He

supplies technical expertise to local people who themselves carry out their own program. A pilot plan has been completed for the Village of Hamilton. Urban forestry planning is underway in Binghamton, Norwich, New Berlin, Oxford, Windsor, Bainbridge, Afton and Owego.

Community urban forestry plans include the identification of diseased trees, a plan for the removal of and/or maintenance of diseased trees, a plan for the replacement of the removed trees, a planting plan, planting standards for the community and an annual tree maintenance plan. Once initiated, urban forestry is an ongoing program with the local municipal government controlling or carrying out many of the recommendations in the plan.

The RC&D Project also helped organize the Chenango Plant Materials Cooperative. Under this arrangement, trees and shrubs suitable for urban planting are removed from rights-of-way and construction sites before they are cleared. The plants are then temporarily planted in a nursery until they can be permanently planted as part of an urban forestry program.

Urban trees help people and need help from people.



OHIO

RESPONSIBILITIES EXPANDED FOR DIVISION OF FORESTS AND PRESERVES

Continuing expansion and change have characterized the Ohio Department of Natural Resources, Division of Forests and Preserves. An Executive Order, approved by the State Legislature, has separated the former Division of Forestry and Reclamation into a Division of Reclamation and a Division of Forests and Preserves.

The Division of Forests and Preserves has expanded responsibilities including administration and management of state natural areas, programming of an environmental education center, and development of a new expanded urban forestry program.

The urban forestry program provides professional foresters to Ohio communities for planning and zoning guidance, development of green belts, noise control plantings and vest-pocket parks. In addition to working with individual homeowners, urban foresters will serve as advisors to city councils, planning commissions, civic organizations, and environmental groups. The urban forestry program grew out of the Service Forestry Section, which provides private landowners with direction and guidance in timber management, timber stand improvement, marking and marketing information. Service and urban foresters also are the major public educational arm of the Division.

State forests continue to complement state parks by providing extensive recreation activities such as hunting, hiking, horseback riding, and backpacking. Scenic motoring on over 200 miles of forest roads is a popular activity, as is horseback riding on 103 miles of trails.

The 170,000 acres of state forest land also are managed for timber resources. Over 1 million board feet of forest products—valued at \$86,655—were harvested in 1972.



The three Division nurseries shipped 17 million seedlings for reforestation purposes during 1972.

PENNSYLVANIA

BUREAU OF FORESTRY VERY ACTIVE IN PUBLIC CONSERVATION PROGRAMS

The "Birth of a Tree Program" was a unique and different conservation experience for 250,000 third grade children in Pennsylvania. Each child planted three Norway spruce seeds in an artificial growing medium block and watched the seed develop into a seedling. The program was praised by administrators, teachers and children.

In recognition of the Boy Scout SOAR (Save Our American Resources) program, the Bureau of Forestry established the Forest Conservation Award. To qualify,

a Boy Scout must earn the Forestry Merit Badge plus two of the following merit badges: Fruit and Nut Growing, Botany, Insect Life, Weather, Surveying and Woodworking. During 1972, 75 boys earned this award.

Pennsylvania is one of the states that handles its own Smokey Bear Junior Forest Ranger Program. The 200,000 annual requests are handled on a one-to-one basis as each child is required to write an individual letter.

During 1972, Smokey Bear was kept busy with several new and different fire prevention programs. He made an appearance at a Pittsburgh Pirate baseball game and umpired a father-son baseball game. During



Fire Prevention Week, Smokey appeared at half-time of the Philadelphia Eagles-New York Giants football game. Also during Fire Prevention Week, Smokey appeared on all four "Romper Room" television programs seen in Pennsylvania. Excellent cooperation was received from the Maryland Forest Service in the program aired from Baltimore, Maryland.

During his "spare" time, Smokey visited 881 schools in Pennsylvania. This involved 4,916 classrooms and 174,932 students.

LAND USE PLANNING BROADENED TO INCLUDE ALL RESOURCES

Previous plans for the management of forest lands were basically timber management plans. In 1970, planning was broadened to include all resources. New plans have been completed for eleven of the seventeen districts requiring resource planning. The basic Forest Resource Plan includes sections on timber management, watershed management, recreation management (including wildlife management), and minerals management. Each section includes the objectives of that forest use, an inventory, description of the management systems used, and an operating plan. The different uses are integrated by utilizing a land-use zoning system. More than one use

is allowed on the same area where compatible. On other areas, one type of use may be subject to constraints or even excluded by a higher use.

RADIO NETWORK IMPORTANT DURING HURRICANE AGNES EMERGENCY

Most of the mountaintop radio transmitter equipment operated by the Division of Forest Protection was not damaged by Hurricane Agnes in 1972. By implementing the North Mountain Repeater, 30 miles northwest of Wilkes-Barre, the Division of Forest Protection, within 8 hours after a 2:00 a.m. notification on June 22, provided the Bureau of Water Quality Management with a radio link from its Harrisburg office to the emergency field headquarters in Dallas, Pennsylvania. This radio link was the only communication that the Bureau of Water Quality Management had with the flood area, and it operated 24 hours a day for 10 days. The Scranton District Forester's office provided communications on a different channel for emergency evacuation and rescue of personnel in the Wilkes-Barre area. In one instance, a helicopter was called in to remove a heart attack victim from the Retreat Mental Hospital. There were many other examples where radio aided the rescue operations.

RHODE ISLAND

LAND-COVER TYPE INVENTORY PUBLISHED

The University of Rhode Island Agricultural Experiment Station has published a 30-page booklet, "Land-Cover Types of Rhode Island: An Ecological Inventory". The booklet describes the mapping of land-cover types in Rhode Island, and data derived from an analysis of the maps provide a general inventory of various ecosystems within the state.

As Rhode Island copes with the development of its potential as a state in a megalopolis in this technical-industrial era, the land-cover maps and the data they offer should be especially valuable in decisionmaking, by showing what land-cover resources remain, where they are to be found, and how much of each remains.

The Rhode Island Division of Forest Environment and the Forest Service, USDA, provided financial assistance through a General Forestry Assistance project for publishing the booklet and related maps.

ZONING CONSIDERED FOR STATE MANAGEMENT AREAS

Most people love trees and go where trees are. Reconciling the impacts created by people, insects and wildfire is a major problem on state lands. Though forest resources are renewable and tolerant, knowledgeable constraints and compatible uses must be carefully applied.

The Department of Natural Resources is evaluating a zoning concept for state management areas. Factors being considered are: soil capacity, slope, moisture, wildlife, vegetation and the timing and amount of public use. Just as cities and towns seek compatible land uses via master plans and zoning codes, so should the use of public lands be guided.

The Rhode Island Division of Forest Environment promotes a state-wide conservation education program in elementary schools and summer day camps.



VERMONT

LANDMARK ENVIRONMENTAL LEGISLATION PASSED

During the 1960's, Vermont's explosive land use changes, uncontrolled development and spiraling land prices and taxes, lead to the degradation of its rural character and upset its social and economic stability. Due to these drastic changes, people became increasingly concerned about the need for the orderly development and conservation of Vermont's total environment.

In 1970, an important milestone was reached: Vermont's landmark environmental legislation, Act 250, was passed, thus putting Vermont in the forefront of environmental controls and land use planning.

It was recognized early in the program that local guidance from state representatives would be necessary. Because of their broad ecological background and the high credibility which they had in local communities, Vermont's county foresters were selected to act as environmental advisors. Three roles have grown from their activities: preapplication services, state representation, and district commission guidance.

There were many early apprehensions concerning the implementation of this legislation, some of which continue. But during 3 years of successful experience, Act 250 has earned broad public support and stimulated great interest from other states. The 1973 session of Vermont's General Assembly amended Act 250 to strengthen it and enacted a land capability and development plan.

Little major development has been stopped as a result of Act 250, however, nearly all development has been modified and improved to meet environmental requirements. The success of the law has been due in many respects to the highly significant contribution made by the county foresters acting as environmental advisors in their "grass roots" contacts and their effective coordination with other public and private agencies.



Act 250 allows Vermont to insure that developments blend with the natural landscape.

A major oil company modified its landscape, site and lighting plans to conform with Act 250 criteria. Note directed low lighting.



WEST VIRGINIA

MANAGEMENT PLANS DEVELOPED FOR STATE FORESTS

Field work was completed in 1969 for preparation of timber management plans on the nine state forests containing 77,000 acres. The preparation of many maps and charts has delayed the completion of the plans, but they are now essentially finished. It is hoped that a timber sale program will get underway in the near future. State forests are primarily demonstration areas to show how timber, wildlife, water and recreation programs can be compatible on the same area. Ideally, each state forest will eventually have areas harvested by uneven age, even age, shelterwood, and diameter-limit systems to demonstrate the advantages and disadvantages of each.

Since most of West Virginia's state forest properties were severely cut prior to acquisition, there has been no urgency to get a timber sale program in effect. Some timber is now maturing and needs to be harvested soon.

FOREST INDUSTRY DIRECTORY PUBLISHED

A directory of the secondary forest industries of West Virginia was recently completed and distributed. In the

near future, a revised sawmill directory is to be completed and distributed to all interested individuals. One issue of the West Virginia Forest Products Bulletin has been distributed and is planned to be published bi-monthly. Response from recipients has been extremely favorable.

FORESTRY PLANNING COMMITTEE SETS TREE PLANTING GOALS

The West Virginia Forestry Planning Committee remains very active. It meets semiannually and has recently pledged total support to an accelerated tree-planting program to help meet the goal of planting 200,000 acres of idle lands in the next 10 years. The members are all from public agencies and include the West Virginia Department of Natural Resources; Agriculture Stabilization and Conservation Service; Soil Conservation Service; Northeastern Area, State and Private Forestry; Monongahela National Forest; West Virginia Soil and Water Conservation District Supervisors Association; Extension Service; and West Virginia University Division of Forestry.

WISCONSIN

TIMBER PRODUCERS HELPED TO MAXIMIZE QUALITY AND PROFIT

The National Hardwood Lumber Association was established in 1897. Its codification of rules establishes a system for comparing the value of hardwood boards and provides the user with a standard on which he may base his purchase for a particular use. Since those early years many attempts have been made to relate log quality to lumber quality.

In 1968, the Northern Hardwood and Pine Manufacturers Association adopted a set of log grading rules based on the system developed by the U.S. Forest Service after many years of research. This system enables foresters, timber sellers and buyers to separate, from woods-run hardwood logs, those logs suitable for manufacture into factory grade lumber and to rank the logs into categories of high, medium, and low quality yields. This system provides relatively consistent results in sawmills throughout the Lake States area.

Recognizing that log quality delivered to the sawmill starts at the stump, the Wisconsin Department of Natural Resources has undertaken a program to help timber producers maximize the number of quality logs coming

from the trees they harvest. In 1972, training was given to 130 sawmill personnel, landowners, and others to familiarize them with log grading and provide some actual practice using the system. In nearly every case, it has been demonstrated that additional revenue could have been realized had the cutter understood log grading prior to cutting the tree into logs. Several producers have claimed improved profits since applying log grades to their harvesting operations.

ALTERNATIVES SOUGHT FOR CHEMICAL CONTROL OF FOREST INSECTS

The pine tussock moth and the spruce budworm are two of the most important defoliators of hard pine forests in northwestern Wisconsin and east central Minnesota. In 1962, the Wisconsin Department of Natural Resources, in cooperation with the University of Wisconsin, launched biological, ecological, economic and managerial investigations of these insects. The objectives were to determine their economic impact, biology, and life history; to learn the roles of ecological factors and to develop life tables for the recognition of key natural control factors.

Both pests have a history of infrequent outbreaks in the study area dating back to 1907. A peak jack pine defoliation of 60,000 acres was reported in 1961. Emergency aerial spraying of jack pine forests with insecticides to reduce serious defoliation relied chiefly on DDT. As the impact of DDT on the environment became evident, it ceased to be used in 1968, and other materials were field tested. A search for an insecticide to replace DDT for control of these defoliators is underway, but a completely successful replacement is still not available.

In another study, an economic analysis of management alternatives for jack pine budworm control in northwestern Wisconsin included the use of and need for chemical controls. Historical entomological data was compiled. Insect attack and damage was simulated with necessary adjustments until insect population behavior conformed to historical experience and logical assumptions. Approximately 70 alternative management strategy combinations were tested including both silvicultural and chemical control as well as experiments on the insect-free environment and examples of no direct con-

trol. Results of these studies showed that substantial insect-caused damage can be averted through long-term timber management adjustments, that short-term silvicultural control is relatively ineffective and chemical spraying, though effective, can be eliminated with appropriate adjustments in management practices.

The environmental significance of this simulation technique is its application to other timber types that periodically have received chemical control. This format, using economic considerations and the methodology developed in the simulation model, have clearly lessened our reliance on chemical control. It offers the forest practitioner the methods needed to manage certain valuable species to minimize losses due to forest pests by changes in management practices and to establish harvesting and sales practices that link stumpage prices to stand characteristics such as age and site index. The simulation system has been offered to all foresters through training sessions sponsored by the Wisconsin Department of Natural Resources.

Spruce budworm





NORTHEASTERN AREA, STATE AND PRIVATE FORESTRY

The Northeastern Area, State and Private Forestry encourages, assists and promotes improved protection, management, utilization and environmental enhancement of state and private forests and related resources. State and private forestry specialists—working as interdisciplinary teams—help provide the planning, guidance, financing, training, research information and technical knowledge that are essential for effective cooperative forestry programs.

The Area is organized into three major units: (1) Resource Use and Management, (2) Environmental Protection and Improvement, and (3) Organization Management and Related Assistance. Each of these is briefly described below.

Within the Northeastern Area, five field offices have been established at strategic locations to facilitate closer on-the-ground technical assistance to cooperators and to more efficiently perform field work. Subject matter specialists at the field offices function as technical extensions of the Area headquarters in Upper Darby, Pennsylvania. They are members of a team headed by their Group Leader in Upper Darby. Field Offices are located in St. Paul, Minnesota; Portsmouth, New Hampshire; Carbondale, Illinois; Delaware, Ohio and Morgantown, West Virginia.

RESOURCE USE AND MANAGEMENT

Over one-third of the 20-state Northeastern Area is in forested lands owned by wood-based industries, public agencies and individuals. One-half of the Nation's estimated 4 million private forest landowners are within the 20 states. These 164 million forested acres contain a vast store of forest, water, wildlife and recreational resources that is vital to the well-being of people throughout the Northeast and the Nation.

Specialists assigned to the Resource Use and Management (RUM) Unit provide technical and consultive

services to state and private leaders involved in cooperative forestry programs and related activities. Their services include resource planning, resource management, and resource use.

RESOURCE PLANNING

A major effort of the Resource Planning Group is in cooperative river basin planning. In these studies, the resources of a specific river basin are inventoried, needs of the people are determined, problems are ascertained and programs to eliminate the problems are proposed. The Planning Group is cooperating with state and Federal agencies in planning for 15 river basins. Another seven basins have been authorized for study and 19 studies have been completed.

Small watershed planning under PL-566 seeks flood control and watershed protection through a system of small reservoirs and proper land treatments or adjustments. The land treatment program includes erosion and sediment reduction practices on agricultural land, and where erosion hazards are such that agricultural use is imprudent, the conversion of that land to forest vegetation. Forest treatments are planned to improve the land's ability to absorb precipitation and retard runoffs. Where reservoirs are designed for dual purposes—such as recreation use and municipal or industrial water supply—technical assistance is given in the preparation of vegetative management plans to improve the scenic character or protect the water quality. The result is the protection and enhancement of the environment and the reduction of water treatment costs. There are about 200 operational PL-566 projects in the Northeastern Area. An additional 91 have been completed. About 200 other watersheds are authorized for planning although efforts have been suspended or terminated on some of them. There are two active Flood Prevention Projects (PL-534) in operation: the Little Sioux in Iowa, and the Potomac in portions of Virginia, West Virginia and Maryland.



South Branch, Potomac River, West Virginia.

Resource Conservation and Development (RC&D) planning entails most of the principles of the other planning efforts. Recommendations are made for specific projects that are usually translated into results. For example, a project recommendation for an industry to provide additional employment could result in establishing a wood using industry. Or, a recommendation that educational facilities be improved could lead to the establishment of a trade school which would provide young residents with skills needed in the project area. Operational RC&D projects in the Northeastern Area total 26. Approximately 18 others are in the planning stage.

But planning is not always enough or on time. Natural catastrophes such as Hurricane Agnes in 1972 and the Midwest flooding in 1973 force man to "ride out the storm" and to rebuild in the wake of devastation.

Following these two floods, the Resource Planning Group, in cooperation with state forestry organizations, conducted watershed damage appraisal studies in Pennsylvania, Maryland, New York, Missouri, Illinois and Iowa. These studies recommended and Congress approved over 2 million dollars of Federal funds for emergency watershed treatment programs.

RESOURCE MANAGEMENT

The Resource Management Group provides services and advice in silviculture, tree nurseries and planting, tree genetics, forestry incentives, urban and community forestry, general forestry assistance projects, wild and scenic river studies, and large forest property management.



Walnut research findings of Forest Service scientists at Carbondale, Illinois and Bedford, Indiana are interpreted by state and private forestry specialists. Training in walnut culture has been extended to landowners and foresters in 14 states. This training provides the latest technical information to practicing state, industry and consulting foresters throughout the commercial range of black walnut.



Almost 500 state service foresters provide professional advice and assistance to over 50,000 forest landowners, forest product operators and cooperators, and provide incidental assistance to an additional 50,000 people in the 20-state area. This service involves nearly 2.5 million acres of forest land.

Scientific timber harvest improves the forest by removing "low producers". Forest Service scientists at Parsons, West Virginia and Columbus, Ohio are developing a mathematical method for selecting the "high producers." The method allows foresters to select "leave trees" on the basis of the rate at which the value of the tree is increasing. Here state and private forestry specialists are being trained in use of the method. They, in turn, will help train state and private forest owners.



RESOURCE USE

In keeping with the Forest Service's national goal of extending the timber supply, the Resource Use Group has concentrated its efforts to improve utilization of wood during logging and processing. Significant contributions have been made in increasing yields, increasing production, using wastes, and upgrading low-value and little-used species.

Some examples of progress through state-Federal teamwork are:

1. After a Maine mill analysis, correction of a 14-percent underrun increased annual lumber yields about 1.7 million board feet.
2. In Rhode Island, acceptance of a mill analysis recommendation to use a double-cut band saw increased annual lumber production about 1.3 million board feet.
3. Assistance to New England and Lake States paper companies interested in producing bark products resulted in the utilization of about 200,000 cubic feet of bark.

4. In Wisconsin, a paper company diverted about 6 million board feet of pulp logs to saw logs. About 800,000 board feet of logs were upgraded for higher quality products by using proper bucking and grading practices.

Research implementation is an important part of the Resource Use Group's work. Program SOLVE, a concept for analyzing sawmill economics, was field-tested at 14 mills in 12 states. SOLVE computer programs are operational at five major universities. Other research implementation work involves on-site evaluation of logging residue, machine stress rating, short log systems, incentive plans and waste reduction, bolt grading methods, verifying lumber grade yields and feasibility plans for a new mills. Research implementation was also aided by the preparation of nine publications and magazine articles and by radio and television appearances in New York City, Philadelphia and Boston.

FPU specialists trained Wisconsin industrial foresters in the latest log grading techniques.



ENVIRONMENTAL PROTECTION AND IMPROVEMENT

The more than 106 million residents of the 20-state Northeastern Area depend in varying degrees upon the forested land near their homes. People in the Northeast are becoming increasingly aware and interested in the role that trees and forestry play in their lives. They demand and expect wise use of their environment—and particularly of their trees and forests.

The Environmental Protection and Improvement (EPI) Unit assists state natural resource agencies and other cooperators with programs in forest pest (insects and disease) management, forest fire management and environmental improvement.

FOREST PEST MANAGEMENT

The Forest Pest Management Group assists and coordinates the detection, evaluation and suppression of forest insects and diseases. The Group has total responsibility, under the Forest Pest Act and Lea Act, for planning and action phases of detection and biological evaluations of insect and disease problems on all forest lands within the 20-state Area. This includes 17 national forests and 1.8 million acres of other Federal land.

Major effort was expended in preparing sound Environmental Impact Statements for both the USDA Cooperative Suppression and Regulatory Program for Gypsy Moth and the Maine Cooperative Spruce Budworm Suppression Project. The final statements considered all comments received from reviewing Federal and state agencies, environmental organizations, and

individuals. The statements covered in great detail the biological, economic, social and environmental aspects of the various alternatives available.

To handle more effectively the increasing bulk of gypsy moth information used in preparing impact statements, a literature review and a storage and retrieval system was developed by the Delaware Field Office. A gypsy moth bibliography containing approximately 5,000 references will soon be available.

The effects of trichlorfon (Dylox), carbaryl (Sevin) and *Bacillus thuringiensis* upon target and non-target organisms in the environment are being monitored under cooperative agreements with universities and private consultants. These cooperative studies permit increased Forest Pest Management participation in solving the gypsy moth problem. Current findings are integral parts of the 1973 Environmental Impact Statement.

Techniques for determining the economic benefits and costs of gypsy moth suppression are under study by the Forest Service. Methods for two types of forest use—real estate and wood production—have been developed and will soon be available as publications from the Northeastern Forest Experiment Station.

The first method will enable forest managers to estimate tree mortality due to gypsy moth defoliation and the resultant reduction in real estate value. The technique will contribute to the suppression decisionmaking process.

The second method involves the economic analysis of gypsy moth in commercial forests. The procedure will

Although work related to the gypsy moth is currently of major importance, Forest Pest Management specialists also provide assistance in a variety of insect and disease programs as indicated by these recent publications.



assist in deciding for or against suppression in selected areas highly regarded for their sawtimber or pulpwood value.

The next phase of study will be directed at measuring the price people are willing to pay to prevent aesthetic degradation and nuisance resulting from the gypsy moth. Some effects once considered purely aesthetic are becoming costs and benefits that can be described in dollar terms.

To learn the consequences of "control" or "no control" decisions in treated and non-treated areas of New Jersey, New York and Pennsylvania in 1971, the following statistical comparisons between treated and untreated areas are being evaluated: tree conditions or mortality, tree growth, gypsy moth population levels and levels of *Ooencyrtus* and *Calosoma* populations. Data after 2 years shows increased tree mortality and egg mass counts in untreated areas as compared to treated areas.

FOREST FIRE MANAGEMENT

The Forest Fire Management Group has responsibility for cooperative program administration, fire suppression, fire prevention, rural fire protection, and utilization of Federal excess property.

Three new publications have been produced by Forest Fire Management. "Rural Fire Protection Affects You" was printed from plates furnished by the Southeastern Area, State and Private Forestry, and 50,000 copies were printed and distributed to the states. It shows how excess military vehicles can be converted into pumpers and tankers to fight wildfires in rural areas and explains how rural communities can acquire this equipment.

A new "Digest of State Forest Fire Laws" was released in June 1973. It updates the 1967 digest and includes a summary of state air quality laws that relate to open burning. It provides condensed versions of the

An agreement expanding mutual aid assistance in forest fire fighting and training between the Middle Atlantic Interstate Forest Fire Protection Compact and the Southeastern States Forest Fire Compact Commission was signed in Harrisburg, Pa. on February 2, 1972. Attending the signing ceremony were (l. to r.): Philip L. Archibald, Northeastern Area, State and Private Forestry; State Foresters:

Samuel S. Cobb, Pennsylvania; Samuel V. Mace, Delaware; George R. Moorhead, New Jersey; Lester McClung, West Virginia; A. R. Bond, Maryland; George W. Dean, Virginia; and Ronald C. Schureman, Kentucky (not shown). Samuel V. Mace, chairman of the Middle Atlantic Conference, and Ronald C. Schureman, chairman of the Southeastern States Conference, signed the agreement for their conferences.

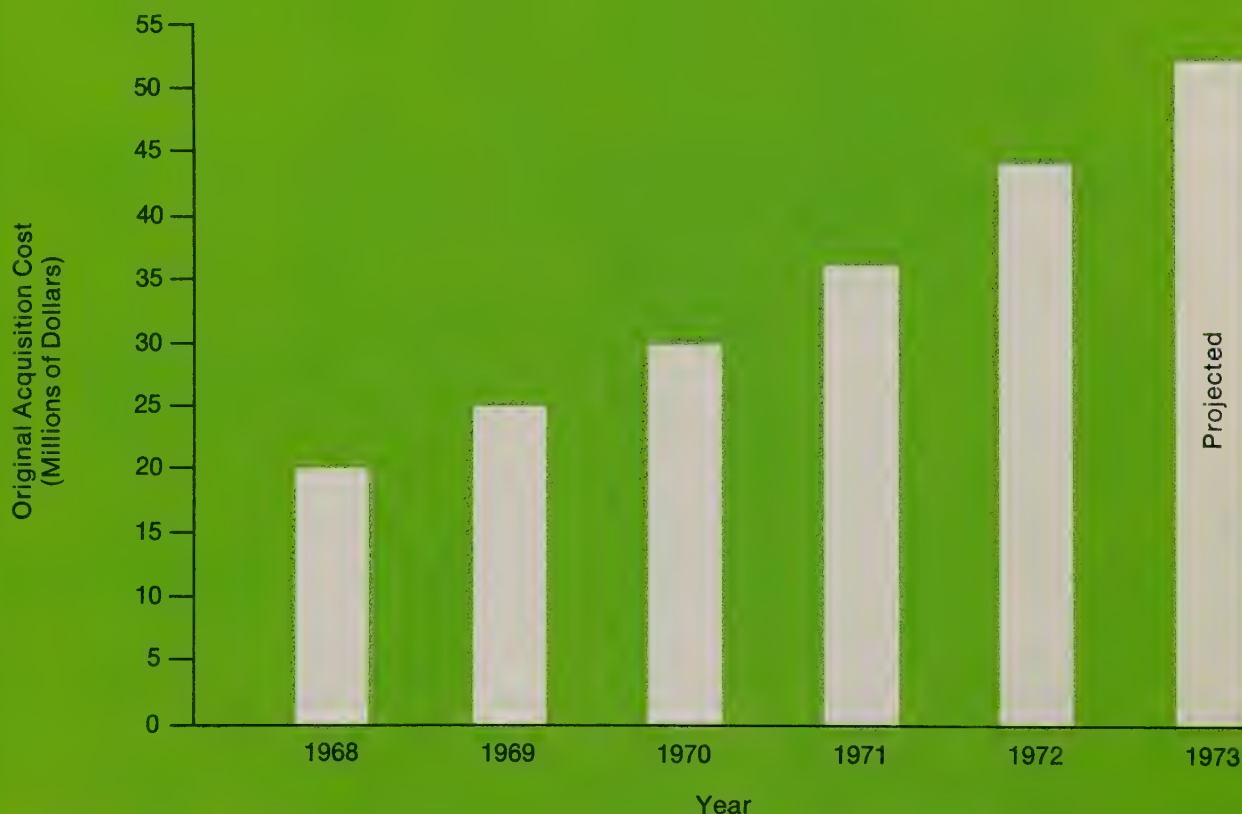


state fire laws and references to the State Code of Forest Fire Laws.

The very popular "Water vs. Fire", originally prepared by the California Region in 1950, was revised and published by the Northeastern Area in June 1973. It is the same size (6" x 9") as the Manual for Forest Fire Fighters and can be used as a supplement to the Manual or issued as a separate booklet. This booklet will help meet a mounting need to train cooperative rural fire department personnel.

Another cooperative film effort is underway with the production of "The Old Man of the Forest" which stresses the safe use of fire. Most of the filming is being done in the scenic hills of western Maryland. The script was written by Sid Abel, and Byron Morgan Associates are producers. Overall direction is provided by the Film Committee of the Northeast Forest Fire Control Supervisors. On-the-ground technical supervision is provided by fire personnel of the host state.

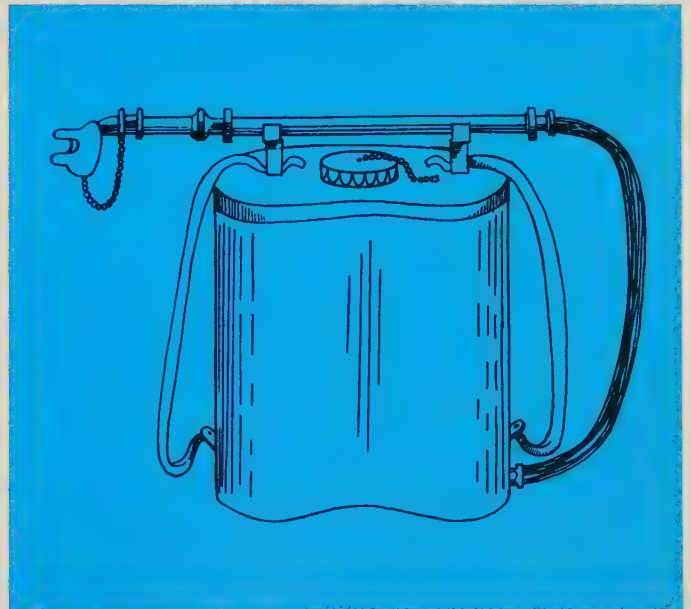
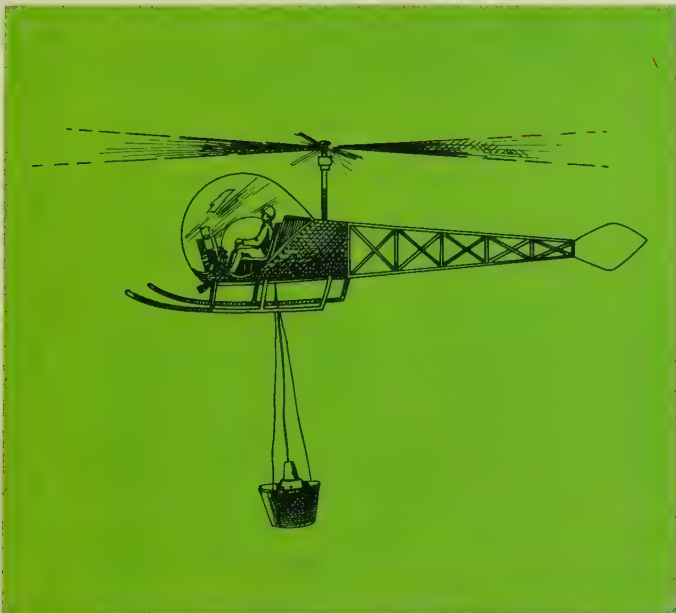
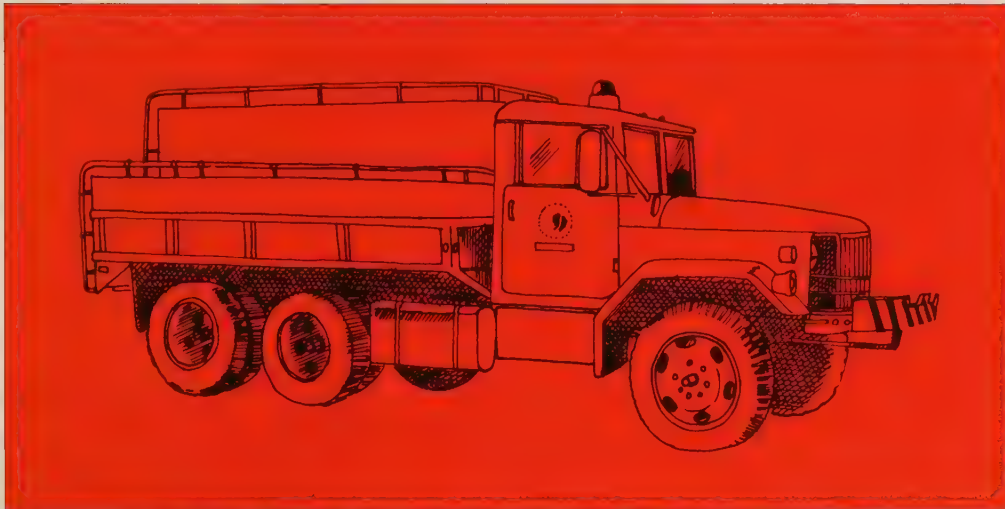
GROWTH OF THE FEDERAL EXCESS PROPERTY PROGRAM



The Excess Personal Property Program continued to grow with increasing interest in protecting rural America from wildfire through the use of Federal excess property. Non-expendable excess property is being placed on a computerized listing to assist the states in keeping track of this vast quantity of fire suppression equipment.

SUMMARY OF EXCESS PROPERTY PROGRAM FOR 1972

<u>Type of Equipment</u>	<u>Number</u>	<u>Value</u>
Vehicles	662	\$3,300,000
Aircraft	10	389,000
Other supplies		4,100,000
		<hr/> \$7,789,000



ENVIRONMENTAL IMPROVEMENT

The activities of the newly formed Environmental Improvement Group have involved three principal activities: monitoring air pollution in areas of forest damage, reviewing and commenting upon the adequacy (from the standpoint of forest impacts) of draft environmental statements prepared by other agencies and preparation of an "Environmental Information Guide" to provide background material for Field Offices and cooperators.

Damaged forests and Christmas tree plantings, where air pollution was suspected to be the causative agent, were monitored for sulfur dioxide in Maryland, Pennsylvania, West Virginia, Ohio and Indiana. Results indicate that ozone, rather than sulfur dioxide, is the culprit in most cases. This prognosis is being verified. Coordination procedures for the review of draft environmental statements have been established in 12 states. In some cases, the state forester coordinates all forestry comments while others have a state coordinator of environmental statements other than the state forester. Coordination procedures will be established in the other Northeastern states as proposals develop.

The Environmental Information Guide brings together, in one loose-leaf binder, the principal legislation and directives which guide environmental efforts. A limited distribution of the Guide was made to cooperating state agencies.



Circular sulfation plates mounted on tree brackets were used to determine the presence and relative concentration of sulfur dioxide in the air.

ORGANIZATION MANAGEMENT AND RELATED ASSISTANCE

The Organization Management and Related Assistance (OMRA) Unit provides, to state natural resource agencies and other cooperators, advice and technical assistance in management consultation, rural development, manpower programs, training, safety and information and education.

MANAGEMENT CONSULTATION

The Management Consultant Group has redesigned and implemented the National Multiple Accomplishment Reporting System (MARS) to satisfy the unique needs of the Northeastern states. All 20 states were involved as of July 1973. MARS is a logical step in developing more sophisticated management systems. It helps managers satisfy the sometimes conflicting and complex demands for natural resources. MARS will become increasingly valuable as it makes possible more complete and accurate statements of needs and accomplishments for environmental programs.

Cooperation under the Intergovernmental Personnel Act (IPA) of 1970 is another responsibility of the Management Consultant Group. The objective of IPA is to make two-way mobility routine in the development of personnel and the improvement of public services at all levels of

government. Under the IPA program, one Forest Service employee is serving as a state forester.

RURAL DEVELOPMENT

The Rural Development Group has responsibility for manpower programs, civil defense, regional commission liaison, and assistance to state and regional rural development committees.

Progress has been made in comprehensive planning for rural development. A comprehensive planning program has been started in Minnesota. Cooperators there include the Superior and Chippewa National Forests, the State of Minnesota and the Arrowhead Regional Planning Commission. A Forest Service specialist is now housed with the Commission to help plan forest land uses. In June 1973, new tripartite cooperative agreements for comprehensive land-use planning were made in Maine and Pennsylvania. Under each agreement, the State Forester will assign a forester/planner to the state planning office to provide forest resource information and advice. The Forest Service, through the Northeastern Area, State and Private Forestry, will provide technical and financial assistance.

Cooperating with the state agencies and national



Rural development activities seek to make rural America a better place to work and live.

forests, rural communities have been aided in developing facilities, forest enterprises, manpower programs and environmental enhancement programs. These activities seek to make rural America a better place to work and live. In the future, these programs will be integrated with other Federal, state and local cooperative programs through the Federal Regional Councils.

In an effort to improve rural housing conditions, thousands of people have received the latest housing information and construction technology via exhibits, lectures, seminars, publications, and personal contact. The Forest Service, USDA publication "Designs for Low-Cost Wood Homes" has been particularly valuable and popular in this effort.

TRAINING AND SAFETY

During 1972 and 1973, the OMRA training team conducted 19 training sessions for nearly 800 state personnel. Four different training courses were presented: Organization Management Training (OMT), Instructor Training Course (ITC), Safety Systems Management (SSM) and Inform and Involve (I&I).

Wisconsin has conducted three ITC programs using material prepared by the Northeastern Area, State and Private Forestry. Three more sessions are planned for 1974.

The SSM course has been presented in six states, and two other states have scheduled it for 1974. This course emphasizes improved safety attitudes for top personnel.

INFORMATION AND EDUCATION

The Information and Education staff assists in the development of informational materials needed for cooperative forestry programs and for implementation of forestry research results. Advice and assistance in developing information and education programs are provided to state natural resource agencies and other cooperators. The Information and Education staff gratefully acknowledges the information and assistance provided by many state and Forest Service personnel in the preparation of this publication.

State and Private Forestry training courses emphasize learning by doing and the practical application of new information and techniques.



COOPERATING STATE AGENCIES

Connecticut Department of
Environmental Protection
State Office Building
Hartford, Connecticut 06115

Delaware Department of Agriculture
Forestry Section
P. O. Box "D"
Dover, Delaware 19901

Delaware Department of Natural Resources
and Environmental Control
Division of Parks, Recreation and Forestry
D Street and Legislative Avenue
Dover, Delaware 19901

Illinois Department of Conservation
Division of Forestry
State Office Building
400 South Spring Street
Springfield, Illinois 62706

Indiana Department of Natural Resources
Division of Forestry
613 State Office Building
Indianapolis, Indiana 46204

Iowa State Conservation Commission
300 Fourth Street
Des Moines, Iowa 50319

Maine Forestry Department
State Office Building
Augusta, Maine 04330

Maryland Department of Natural Resources
Maryland Forest Service
Tawes State Office Building
580 Taylor Avenue
Annapolis, Maryland 21401

Massachusetts Department of Natural Resources
Division of Forests and Parks
Leverett Saltonstall Building
100 Cambridge Street
Boston, Massachusetts 02202

Michigan Department of Agriculture
Plant Industry Division
Lewis Cass Building
Lansing, Michigan 48913

Michigan Department of Natural Resources
Forestry Division
Stevens T. Mason Building
Lansing, Michigan 48926

Minnesota Department of Natural Resources
Division of Lands and Forestry
Centennial Office Building
St. Paul, Minnesota 55155

Missouri Department of Conservation
Forestry Division
2901 North Ten Mile Drive
Jefferson City, Missouri 65101

New Hampshire Department of Resources
and Economic Development
Division of Resources Development
State House Annex
Concord, New Hampshire 03301

New Jersey Department of Agriculture
Division of Plant Industry
P. O. Box 1888
Trenton, New Jersey 08625

New Jersey Department of Environmental Protection
Division of Parks and Forestry
P. O. Box 1889
Trenton, New Jersey 08625

New York State Department of
Environmental Conservation
Division of Lands and Forests
50 Wolf Road
Albany, New York 12201

Ohio Department of Natural Resources
Division of Forests and Preserves
Fountain Square
1952 Belcher Drive
Columbus, Ohio 43224

Pennsylvania Department of Environmental Resources
Bureau of Forestry
Education Building
Harrisburg, Pennsylvania 17120

Rhode Island Department of Natural Resources
Division of Agriculture
Veterans Memorial Building
83 Park Street
Providence, Rhode Island 02903

Rhode Island Department of Natural Resources
Division of Forest Environment
Veterans Memorial Building
83 Park Street
Providence, Rhode Island 02903

Vermont Agency of Environmental Conservation
Department of Forests and Parks
Montpelier, Vermont 05602

West Virginia Department of Agriculture
Plant Pest Control Division
State Capitol
Charleston, West Virginia 25305

West Virginia Department of Natural Resources
State Office Building #3
Charleston, West Virginia 25305

Wisconsin Department of Agriculture
801 West Badger Road
Madison, Wisconsin 53713

Wisconsin Department of Natural Resources
4610 University Avenue
Madison, Wisconsin 53701

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*Northeastern Area, State and Private Forestry
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Forest Service, U.S. Department of Agriculture